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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,742	12/09/2003	Atul Kelkar	502469	5109
53609 7590 02/04/2009 REINHART BOERNER VAN DEUREN P.C. 2215 PERRYGREEN WAY ROCKFORD, IL 61107				
EXAMINER OCHOA, JUAN CARLOS				
ART UNIT 2123		PAPER NUMBER		
NOTIFICATION DATE 02/04/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

RockMail@reinhartlaw.com

Office Action Summary

Application No.

10/731,742

Applicant(s)

KELKAR ET AL.

Examiner

JUAN C. OCHOA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s) Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s) Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION

1. In view of the Appeal Brief (AB hereinafter) filed on 10/21/08, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

2. To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

3. A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Paul L Rodriguez/

Supervisory Patent Examiner, Art Unit 2123

4. Claims 1 and 3–16 are presented for examination.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1 and 3–16 are directed to processes, in order for a process to be considered proper, the claimed process must either be tied to another statutory class or transform underlying subject matter. Regarding the instant claims, the processes are not clearly tied to another statutory class nor transform underlying subject matter.

Allowable Subject Matter

7. Claims 1 and 3–16 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 101 set forth in this Office action.

8. The following is a statement of reasons for the indication of allowable subject matter:

9. While Kelkar discloses obtaining a continuous-time multi-input multi-output (see page 3134, col. 1, 2nd paragraph, lines 10–12) state-space mathematical model (see page 3134, col. 1, 2nd paragraph, lines 1–4) of an acoustic enclosure,

Son discloses designing compensation to render the mathematical model passive in accordance with mathematical system theory if the mathematical model is not passive, thereby forming a compensated system that is passive (see page 3822, col. 2, lines 5–11) and designing a passivity-based controller such that a resulting closed-loop response provides a desired noise reduction (see

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page 3825, col. 2, 3rd paragraph),

Kelkar (2) discloses performing sensor blending if there are redundant sensors (see page 281, col. 1, 1st paragraph),

and Pota discloses designing a passivity-based controller that extracts acoustic energy such that a resulting closed-loop response provides a desired noise reduction (see "The experimental results of a new robust broadband feedback controller, designed using passivity-based techniques, are presented" in page 2, Abstract, lines 5–7; "noise cancelling feedforward controller" in page 6, col. 2, section 4.1 Infinite Dimensional Controller; and "The acceleration to the medium $Qa(s)$ and $Qb(s)$, i.e., the acoustic energy, is provided by speakers attached to one end of the duct and the middle of the duct as shown in Fig. 2." in page 5, col. 1, 2nd paragraph and in Fig. 2),

none of these references taken either alone or in combination disclose a passivity-based controller specifically including:

claim 1, "designing a passivity-based controller that extracts the acoustic energy and the structural energy such that a resulting closed-loop response provides a desired noise reduction", language specifically argued as 'limited to the types of "designing a passivity-based controller" that is consistent with that earlier recitation to "design a feedback controller." Thus, the passivity-based controller of the claimed step would be limited to that type of a controller that is consistent with a feedback controller' (see AB filed on 10/21/08 page 8, 1st paragraph), in combination with the remaining elements and features of the claimed invention. Also, there is no motivation to combine none of these references to

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meet these limitations. It is for these reasons that applicant's invention defines over the prior art of record.

10. A reason for the indication of allowable subject matter of claims 8, 9 and 16 was provided in the office action submitted 9/11/07.

Response to Arguments

11. Applicant's arguments filed in the AB filed on 10/21/08 have been fully considered, and they are persuasive.

12. Regarding the rejection under 103. Applicant's argument, (see page 8, 3rd paragraph to page 11, 5th paragraph), have been considered, and they are persuasive. Rejections are withdrawn.

Conclusion

13. Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan C. Ochoa whose telephone number is (571) 272-2625. The examiner can normally be reached on 7:30AM - 4:00 PM.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on (571) 272-3753. The

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fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. C. O./

1/28/09

Examiner, Art Unit 2123

/Paul L Rodriguez/

Supervisory Patent Examiner, Art Unit 2123